

**REMARKS**

Applicant's attorney wishes to thank the Examiner for the careful consideration given this case, and for the teleconference on September 9, 2003, wherein the remaining issues addressed in this response were discussed. Claims 1-13 and 15-25 are currently pending in this application. It is to be noted that Claim 14 was canceled by the Preliminary Amendment dated October 18, 2000.

This response addresses those issues raised in the Office Action dated May 20, 2003. It is believed that, in light of the discussion with the Examiner and the additional supporting materials being provided herewith, the claims are allowable as previously amended. Reconsideration of the allowability of the claims is respectfully requested in view of the following remarks.

**Enablement**

The pending claims were rejected under 35 U.S.C. § 112, first paragraph as being "based on a disclosure which is not enabling." It is respectfully suggested that this rejection is misplaced in light of the structural features inherently conveyed by the word "bell" and the previous addition of new **Claims 24 and 25** in Applicant's prior Response.

As discussed with the Examiner, the features of the invention are presented in a variety of formats in each of the respective independent claims (*i.e.* **Claims 1, 13, 15, 24, and 25**). There are no "critical or essential" features missing from the claims as currently presented. To the contrary, the specification discloses a variety of structural features which contribute to the harmonic frequency of a bell. (*See e.g.* pages 7-13 of the application). As explained throughout specification, and as understood by one skilled in the art, the initial bell shape will determine which of the structural feature(s) achieve a harmonic bell in accordance with the claimed invention. Several examples are disclosed which demonstrate preferred structural features which obtain the harmonic bell, but the specific features in the example should not be considered critical. "In considering whether an unclaimed feature is critical, the entire disclosure must be

considered.” *In re Goffe*, 542 F.2d 564, 567 (CCPA 1976). All that is required is that one skilled in the art be able to practice the claimed invention. Applicant respectfully submits that is indeed the case in its pending application.

**Claim 25**, for example, presents the enabling features of the claimed invention (*i.e.*, a bell having a plurality of modal frequencies with the first three frequencies substantially in an harmonic sequence) in *Markush* format. This claim explicitly recites the range of structural features that are capable of meeting the functional limitation of the claim (*i.e.* an harmonic sequence). One having skill in the art reading the entire specification would be enabled to achieve the invention of **Claim 25**.

Alternately, **Claim 24** presents the features of such a bell in means plus function format as allowed by 35 U.S.C. § 112, paragraph 6. The means for performing the claimed function are clearly set forth throughout specification (as presented in Applicant’s previous response) and as discussed with the Examiner during the teleconference on September 9<sup>th</sup>. As understood by Applicant’s attorney, the Examiner had no objection to presenting the features of the present invention in this format.

Further, the terms of **Claims 1, 13 and 15** enable the claimed invention because the word “bell” inherently conveys the necessary structural features to achieve the invention. As discussed with the Examiner, Applicant regards the features of a bell (*e.g.*, as recited in **Claim 25**) to be well known by those skilled in the art. For each of the above reasons, Applicant respectfully submits that the pending **Claims 1-13 and 15-25** are enabled, and requests that any rejection based on a finding to the contrary be withdrawn.

#### **Written Description**

The pending claims were rejected under 35 U.S.C. § 112 first paragraph for allegedly failing to comply with the written description requirement. Specifically a copy of the computer program referred to in the specification was requested pursuant to MPEP 608.05. It is

respectfully suggested that this rejection and request is misplaced and should therefore be withdrawn. As discussed during the September 9<sup>th</sup> teleconference, the computer program recited in the application on page 17, line 23 (“ReSHAPE” by Advea Engineering Pty Ltd) is off-the-shelf software that was and is commercially available for purchase by the general public. Included with this response at Tab A is documentation that Applicant obtained from the Advea web page ([www.advea.com](http://www.advea.com)). Notably, the use of “ReSHAPE” by Applicant is now posted on this site under the “Examples” heading. Further, as summarized during the teleconference, this particular program is but one example of the many types of commercially available software available to best realize the invention. Alternately, with an appropriate investment of time, one of skill in the art could conceivably forego use of any computer program and perform all necessary calculations by hand. However, this approach is impractical because of the widely available commercial software capable of performing these calculations. For all of the above reasons, it is respectfully requested that the rejection based upon the lack of written description be withdrawn.

#### Utility

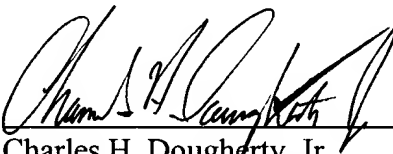
**Claims 1-13 and 15-21** were rejected under 35 U.S.C. §101 and the Applicant was invited to demonstrate the existence and utility for the invention. Previously, Applicant has provided a Declaration pursuant to 37 C.F.R. §1.132 for consideration by the examiner. Enclosed with this Response are two (2) reprints of articles from objective sources reporting upon the existence and utility of this invention. The first, under Tab B, is “*The Design of Bells With Harmonic Overtones*”, J. Acoust. Soc. Am 114(1), July 2003, pgs. 505-511, authored by Neil McLachlan (the Applicant of the instant application) and Behzad Keramati Nigjeh. The Examiner’s attention is respectfully directed to Table 1 on page 507 wherein the sequential optimization results using “ReShape” for the tuning of a 7-partial, harmonic bell starting from a truncated cone with tapering wall thickness is presented. The second reprint, under Tab 3, is a summary of the invention entitled “New Bells Ring Sweeter”, **Nature**, Vol. 424, July 17, 2003, pg. 265. As proposed during the teleconference, this evidence should suffice to demonstrate the existence and utility of the invention and withdrawal of this rejection is respectfully requested.

In view of the foregoing remarks, it is believed that the present application is in condition for final allowance and notice to such effect is respectfully requested.

If the Examiner believes that additional issues need to be resolved before this application can be passed to issue, the undersigned invites the Examiner to contact him at the telephone number provided below.

Respectfully submitted,

Dated: September 19, 2003

By   
Charles H. Dougherty, Jr.  
Reg. No. 42,494

REED SMITH LLP  
P.O. Box 488  
Pittsburgh, PA 15230-0488  
(412) 288-7229

Attorney for Applicant